

INORGANIC CONTAMINANTS (IOC)
COMPLIANCE SAMPLING COLLECTION GUIDE

Kansas Public Water Supply Systems
using the
Kansas Health and Environmental Laboratories



Prepared by
Kansas Department of Health and Environment
Bureau of Water
Public Water Supply Section

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INORGANIC SAMPLING

Inorganic monitoring is part of the Phase II/V Rules. Inorganic (IOC) monitoring requirements are stated in the Code of Federal Regulations 40 CFR 141.23 and in K.A.R. 28-15a-23, and can be found online at the Kansas Department of Health and Environment, Public Water Supply Section website <http://www.kdheks.gov/pws/index.html>.

The purpose of this document is to provide a quick guide for collecting inorganic (IOC) samples. A Phase II/V Rules Survival Guide is available online at the KDHE, Public Water Supply Section website <http://www.kdheks.gov/pws/index.html>, and is a more extensive guide on all facets of the Phase II/V Rules.

Federal regulations require monitoring for specific IOC. Kansas regulations require monitoring for additional IOC. Table 1 indicates the list of IOC for federal inorganic monitoring and Table 2 indicates the list of additional IOC required for Kansas monitoring. An IOC water scan (IOCws) sample will be tested for both the federal required IOC and the additional Kansas required IOC.

The Kansas Health and Environmental Laboratories (KHEL) is part of the Division of Environment under the Kansas Department of Health and Environment (KDHE).

The KHEL fee is \$220 for analyzing IOC compliance samples.

Federal Monitoring Regulations
Inorganic Contaminants Required
Antimony
Arsenic
Barium
Beryllium
Cadmium
Chromium
Fluoride
Mercury

Table 1. Federal Inorganic List

Kansas Monitoring Regulations
Additional Inorganic Contaminants Required
Alkalinity as CaCO ₃
Calcium
Chloride
Iron
Magnesium
Manganese
pH
Potassium
Silica
Sodium
Specific conductivity
Sulfate
Total dissolved solids
Total hardness
Total phosphorus

Table 2. Kansas Inorganic List

What is in an Inorganic Water Scan Sample Kit from KHEL?

- 250 ml round, brown plastic bottle
- 250 ml round, white plastic bottle
- 1 liter plastic cube collapsed into a triangle
- Pink return shipping label
- Sample submission form

Figure 1-IOC is a picture of what is contained in an IOC sample kit from KHEL. A barcode label on each of the sample collection bottles will have the system's KHEL account number and the bottle identification number. The pink return shipping label is to be placed on the outside of the package when ready to ship the sample back to KHEL. The yellow colored sheet is the sample submission form that must be completed for each 3-bottle set of an IOC sample.

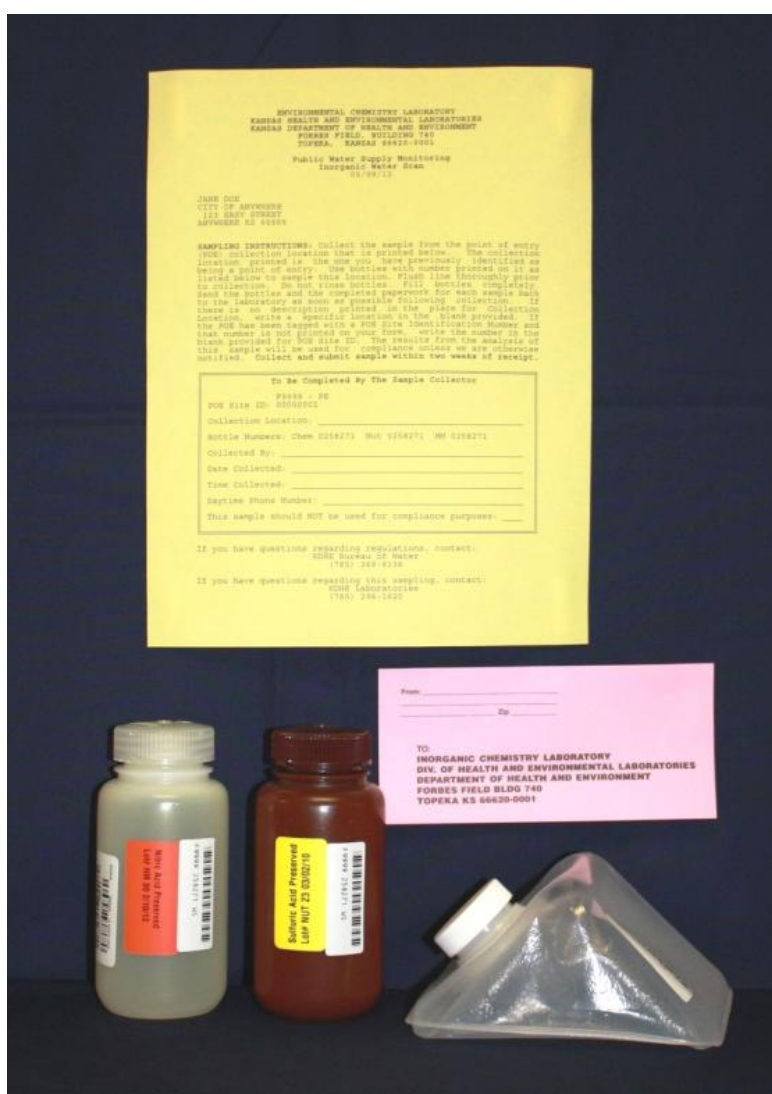


Figure 1-IOC. An IOC Sample Kit Includes 3 Different Collection Bottles

THE INORGANIC WATER SCAN SAMPLE SUBMISSION FORM IN DETAIL

Figure 2-IOC is an example of an Inorganic Water Scan Sample Submission Form

ENVIRONMENTAL CHEMISTRY LABORATORY
DIVISION OF HEALTH AND ENVIRONMENTAL LABORATORIES
KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT
FORBES FIELD BUILDING 740
TOPEKA, KS 66620-3001

Public Water Supply Monitoring
Inorganic Water Scan
08/27/03

Jane Doe
123 Easy Street
Anywhere, KS 66666

Sampling Instructions: Collect the sample from the point of entry (POE) collection location that is printed below. The collection location printed is the one you have previously identified as being a point of entry. Use bottles with number printed as it is listed below to sample this location. Flush lines thoroughly prior to collection. Do not rinse. Fill bottles completely. Send the sample bottle and completed paperwork for each sample back to the laboratory as soon as possible following collection. If there is no description printed in the place for collection location write a specific location in the blank provided. If the POE has been tagged with a POE Site Identification Number and that number is not printed on your form, write the number in the blank provided for POE Site ID. The results for the analysis of this sample will be used for compliance unless we are otherwise notified. **Collect and submit sample within two weeks of receipt.**

To Be Completed By The Sample Collector

POE Site ID: 00999999

Collection location: Water Treatment Plant

Bottle Number: Chem #134952 Put #134952 HM 0114952

Collected By: _____

Date Collected: _____

Time Collected: _____

Daytime Phone Number: _____

This sample should NOT be used of compliance purposes: _____

If you have questions regarding regulation, contact:
KDHE Bureau of Water
(785) 368-8336

If you have questions regarding this sampling, contact:
KDHE Laboratory
(785) 296-1620

Figure 2-IOC. Example of an IOC Sample Submission Form

Figure 3-IOC indicates the header of the form which indicates where the kit came from, and that the form is for use in submitting a public water supply sample for IOC and the date it was shipped from KHEL. The address in the header is the address of KHEL and will match the address on the pink return shipping label that came with the kit.

ENVIRONMENTAL CHEMISTRY LABORATORY DIVISION OF HEALTH AND ENVIRONMENTAL LABORATORIES KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT FORBES FIELD, BUILDING 740 TOPEKA, KS 66620-0001 Public Water Supply Monitoring Inorganic Water Scan 08/27/04

Figure 3-IOC. Header of the Sample Submission Form

Figure 4-IOC indicates the system's address information printed on the form.

Jane Doe 123 Easy Street Anywhere, Ks 66666

Figure 4-IOC. System Address on the Sample Submission Form

Figure 5-IOC indicates the sample collection instructions.

Sampling Instructions: Collect the sample from the point of entry (POE) collection location that is printed below. The collection location printed is the one you have previously identified as being a point of entry. Use bottles with number printed on it as listed below to sample this location. Flush lines thoroughly prior to collection. Do not rinse. Fill bottles completely. Send the sample bottle and completed paperwork for each sample back to the laboratory as soon as possible following collection. If there is no description printed in the place for Collection Location, write a specific location in the blank provide. If the POE has been tagged with a POE Site Identification Number and that number is not printed on your form, write the number in the blank provided for POE Site ID. The results for the analysis of this sample will be used for compliance unless we are otherwise notified. Collect and submit sample within two weeks of receipt.

Figure 5-IOC. Sample Collection Instructions on the Sample Submission Form

Figure 6-IOC has been highlighted to point out specific areas on the form. This section must be filled out for each IOC 3-bottle sample set. Fill out the form completely and neatly! If there is a problem with the sample, KHEL personnel will call the sample collector and try to resolve it. However, if they are unable to make contact, the sample may be rejected and the system will have to re-collect the sample.

The part highlighted in green will indicate the system's KHEL account number.

The part highlighted in purple is the point-of-entry (POE) identification number where the sample must be collected. The POE site ID number should match a KDHE identification tag number that is physically at the site where the sample should be collected.

The part highlighted in yellow has often caused confusion for samplers. It is the Local Name for the collection site. In our data base, systems have the option of giving the POE site a "Local Name," and printed on the form in this location (if anything) is whatever the system requested as the Local Name.

The part highlighted in blue indicates the identification number of the bottle that came in the kit. The bottle ID number on the barcode label and on the sample submission form should always match. If they don't match, call KHEL at 785-296-1620 and notify them of the situation.

To Be Completed By The Sample Collector

POE Site ID: **89999 - PE**

Collection Location: **Water Treatment Plant**

Bottle Number: Chem **0134952** Nut **0134952** HM **0134952**

Collected By: _____

Date Collected: _____

Time Collected: _____

Daytime Phone Number: _____

This sample should NOT be used of compliance purposes: ☐

Figure 6-IOC. Collection Site ID and Bottle ID on the Sample Submission Form

COLLECTING AND SHIPPING THE IOC SAMPLE

The sample kit will specify a time frame in which to collect the sample. Collecting within the appointed time frame is to the system's benefit and has been coordinated with the system's compliance monitoring due date.

Collecting the IOC Sample

Read through the sample collection instructions before collecting the sample. For questions or concerns about the sample collection process, call KHEL at 785-296-1620 for assistance.

To expand the 1 liter cube, twist off the cap, poke a finger inside the spout so that the plastic on the other side can be pinched, then pull the sides apart until the container obtains a cube shape.

IOC compliance monitoring samples are collected from finished water. Listed on the sample submission form is the POE site ID number from where the sample needs to be collected. At the sample collection site there should be a KDHE ID tag with a number that matches the POE site ID number on the form.

Shipping the IOC Sample

As soon as possible after collecting the sample, place the containers and the completed sample submission form into the shipping box and tape shut. Secure the pink return shipping label to the package.

If the sample container leaks it could arrive at KHEL empty or with not enough sample left to analyze. Many couriers will consider a wet package undeliverable and will discard it. Either of these scenarios would require the system to re-collect the sample.

SUMMARY OF IOC SAMPLE COLLECTION

- Upon receipt of the sample kit, open and review the appointed sample collection date.
- Check that bottle ID numbers, KHEL account number, and collection site ID numbers are correct.
- Follow the sample collection instructions that are on the sample submission form.
- Fill out the sample submission form neatly and completely.
- Include the completed sample submission form in the package with the sample, and ship as soon as possible after collection.
- Calling KDHE with questions or concerns you may have is highly encouraged.

For questions about an IOC sample kit or the sample collection process, call KHEL at 785-296-1620.

For questions about the IOC sample kit or compliance monitoring schedule, call KDHE's Bureau of Water, Public Water Supply Section at 785-368-8336.